

(IL-8), matrix metalloprotease 3 (MMP3), MMP9, or any combination thereof, in said subject.

[0029] In some embodiments, the administering comprises: topically administering, orally administering, or both.

[0030] Unless otherwise defined, all technical and/or scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which the invention pertains. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of embodiments of the invention, exemplary methods and/or materials are described below. In case of conflict, the patent specification, including definitions, will control. In addition, the materials, methods, and examples are illustrative only and are not intended to be necessarily limiting.

[0031] Further embodiments and the full scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE FIGURES

[0032] Some embodiments of the invention are herein described, by way of example only, with reference to the accompanying drawings. With specific reference now to the drawings in detail, it is stressed that the particulars shown are by way of example and for purposes of illustrative discussion of embodiments of the invention. In this regard, the description taken with the drawings makes apparent to those skilled in the art how embodiments of the invention may be practiced.

[0033] FIGS. 1A-1B include photographs of *Erodium crassifolium* L'Her. (1A) A desert shrub. (1B) Different stages of tubers. S1—younger tubers; S4 older ones.

[0034] FIGS. 2A-2B include graphs showing that *Erodium crassifolium* extracts comprise anti-inflammatory activity. (2A) Reduced IL-8 level compared to TNF- α treatment. The level of IL-8 for each sample was calculated based on the obtained standard curve. The percentage of IL-8 level in relation to the control treatment (TNF- α) was calculated. (2B) Anti-inflammatory specific activity (pg/ml per 1 gr dry weight). Calculation was performed by dividing the activity obtained in (2A) by the dried weight. Means of replicates were subjected to statistical analysis by multiple comparison Tukey-Kramer test ($P \leq 0.05$). Levels not connected by same letter are significantly different. Ea=Ethyl acetate; W=Water (10% DMSO); *Cucurbita pepo*—extraction in Ea.

[0035] FIGS. 3A-3B include graphs illustrating the anti-inflammatory activity in different *Erodium crassifolium* extracts. (3A) Reduced IL-8 level in HCT-116 colon cells. (3B) Reduced IL-8 level in BJ-hTERT skin cells. Anti-inflammatory specific activity (pg/ml per 1 gr dry weight) was calculated as previously described. Means of replicates statistically analyzed by multiple comparison Tukey-Kramer test ($P \leq 0.05$). Levels not connected by same letter are significantly different. Ea=Ethyl acetate; W=Water; ACN-MET=Acetonitrile-Methanol (1:1); ETOH=ethanol.

[0036] FIGS. 4A-4C include graphs showing dose response curves of MDA-MB-231, HCT-116 and HaCaT (KER) exposed to different concentrations of *E. crassifolium*

extracts. (4A) Viability assay using MDA-MB-231 cells. On the left XXT results and on the right log-dose vs. response curve from which IC50 was calculated. IC50=7.438. (4B) Viability assay using HCT-116 cells. IC50=13.55 (4C) Viability assay using HaCaT (KER) cells. IC50=6.132. *Erodium*=Non-diluted extract while *Erodium* X2, X2.5, X5, X10 and X20 are extracts diluted 2, 2.5, 5, 10 or 20 times.

[0037] FIG. 5 includes a graph illustrating the stability and dilution of *Erodium* extracts. Extracts were stored at either 4° C. or -20° C. for two weeks. The extracts were spun and filtered and stored at 4° C. until used. The ratios 1:10, 1:20, 1:40, 1:80 and 1:160 represent *Erodium* dilutions with water. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1).

[0038] FIG. 6 is a graph illustrating the stability of *Erodium* extracts at different temperatures. Extracts were stored at (-20° C.), 4° C., 20° C. and 37° C. for a period 5 days before using for anti-inflammation assay in HaCaT skin cells. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1).

[0039] FIGS. 7A-7B include graphs illustrating the anti-inflammatory activity of diluted *Erodium* extracts. (7A) IL-8 ELISA assay in HCT-116 colon cells. (7B) IL-8 ELISA assay using BJ-hTERT skin cells. The ratios 1:10, 1:20, 1:40, 1:80 and 1:160 represent *Erodium* dilutions with water. Water 2nd EX (1:10) represents the second extraction cycle performed with the re-used *Erodium* mush. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1). IL-8 reduction was calculated relatively to that obtained with cells stimulated only by TNF- α treatment.

[0040] FIGS. 8A-8B include graphs illustrating the anti-inflammatory activity and stability in *Erodium* water extracts prepared from S2 and S3 tubers. IL-8 ELISA assay was performed on HaCaT (KER) skin cells. Following extraction, samples were stored either dry or wet (re-suspended in water after sublimation) at (-20° C.), 4° C. and 37° C. for a period for either 2 or 5 weeks. (8A) Activity and stability after 14 days. (8B) Activity and stability after 35 days. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1).

[0041] FIG. 9 includes a graph illustrating the presence of anti-inflammatory activity in both peel and flesh of *Erodium* tubers. Activity was evaluated by IL-8 ELISA assay performed on HaCaT (KER) skin cells. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1).

[0042] FIGS. 10A-10B include graphs illustrating the anti-inflammatory activity comprised in wild type (WT) tubers and leaves of *Erodium* plants. Activity was evaluated by IL-8 ELISA assay performed on HaCaT (KER) skin cells. (10A) Comparison of anti-inflammatory activity in WT tubers vs. cultivated tubers. (10B) Comparison of anti-inflammatory activity in tubers vs. leaves of cultivated plants. Levels not connected by same letter are significantly different. ACN-MET=Acetonitrile-Methanol (1:1).

[0043] FIGS. 11A-11B include graphs showing that *Erodium* water extracts can replace steroids and NSAIDs in inflammation treatment. Activity was evaluated by IL-8 ELISA assay performed in both BJ-hTERT (11A) and HaCaT (KER) skin cells (11B). Prednisolone and indomethacin working solutions were prepared as described in